

[Supplement to the Journal of the Council for Scientific and Industrial Research, February, 1940.]

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(*This Committee was formed by the Leeton Fruitgrowers' Co-operative Society to advise settlers in cases where they have some difficult irrigation problem.*)

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 H. N. England, B.Sc., Water Conservation and Irrigation Commission, Leeton (deputy to either Mr. Watson or Mr. Youll).
 E. S. West, B.Sc., M.S., Irrigation Research Station, Griffith.
 E. R. Pennefather, B.Agr.Sc., Irrigation Research Station, Griffith.

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Publications Issued to Date.

(NOTE.—Annual Reports, Bulletins, and Pamphlets are issued gratis.)

ANNUAL REPORTS.

Nos. 1 to 12 inclusive. For years 1926-27 to 1937-38 respectively.

BULLETINS.

1. The Cattle Tick in Australia. (Out of print. See No. 13.)
2. Worm Nodules in Cattle. (Out of print.)
3. The Alumite Deposits of Australia and Their Utilization. (Out of print.)
4. The Factors Influencing Gold Deposition in the Bendigo Goldfield. Part I. (Out of print.)
5. Wheat-Storage Problems (Damaged Grain and Insect Pests). (Out of print.)
6. Power-Alcohol: Proposals for its Production and Utilization in Australia. (Out of print.)
7. Agricultural Research in Australia. (Out of print.) (The individual papers contained in this Bulletin can be supplied separately.)
8. The Factors Influencing Gold Deposition in the Bendigo Goldfield. Part II. (Out of print.)
9. The Manufacture and Uses of Ferro-alloys and Alloy Steels. (Out of print.)
10. Substitutes for Tin-plate Containers. (Out of print.)
11. Paper-Pulp: Possibilities of its Manufacture in Australia. (Out of print.)
12. The Prickly Pear in Australia. (Out of print.)
13. The Cattle Tick Pest in Australia. (Out of print.)
14. An Investigation of the "Marine Fibre" of *Posidonia australis*. (Out of print.)
15. Welfare Work. (Out of print.)
16. The Factors Influencing Gold Deposition in the Bendigo Goldfield. Part III.
17. Industrial Co-operation in Australia. (Out of print.)
18. A Classification and Detailed Description of some of the Wheats of Australia. (Out of print. See No. 26.)
19. Wood Waste. (Out of print.)
20. Power Alcohol. (Out of print.)
21. The White Ant Pest in Northern Australia. (Out of print.)
22. A Classification and Detailed Description of the Barleys of Australia. (Out of print.)
23. A Classification and Detailed Description of the Oats of Australia. (Out of print.)
24. The Production of Liquid Fuels from Oil Shale and Coal in Australia.
25. The Manufacture of Pulp and Paper from Australian Hardwoods. (Out of print.)
26. A Classification and Detailed Description of the More Important Wheats of Australia (a revision and extension of No. 18). (Out of print.)
27. Australian Clays in the Manufacture of White Pottery Wares.
28. Problems of the Viticultural Industry. (Out of print.)
29. Natural Enemies of Prickly Pear and their Introduction into Australia.
30. Investigation of the Bunchy Top Disease of the Banana. (Out of print.)
31. Newsprint—Preliminary Experiments on Mechanical Pulp.
32. A Survey of the Tanning Materials of Australia.
33. The Possibilities of Power Alcohol and Certain Other Fuels in Australia.
34. The Biological Control of Prickly Pear in Australia.
35. Kraft Pulp and Paper from *Pinus Insignis*. (Out of Print.)
36. Kimberley Horse Disease.
37. Paper Pulp and Cellulose from the Eucalypts by the Sulphite Process.
38. The Chemical Composition of Wool, with especial reference to the Protein of Wool-fibre (Keratin).
39. The Utilization of Sulphur by Animals, with especial reference to Wool Production.
40. Observations on the Hydatid Parasite (*Echinococcus granulosus*) and the Control of Hydatid Disease in Australia.
41. Studies concerning the so-called Bitter Pit of Apples in Australia.
42. A Soil Survey of Block E (Renmark) and Ral Ral (Chaffey) Irrigation Areas.

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43. The Bionomics of *Fasciola hepatica* in New South Wales and of the Intermediate Host, *Limnea brazieri* (Smith).
44. Investigations on "Spotted Wilt" of Tomatoes.
45. A Soil Survey of the Woorinen Settlement, Swan Hill Irrigation District, Victoria.
46. Black Disease (Infectious Necrotic Hepatitis) of Sheep in Australia.
47. Radio Research Board: Report No. 1.
48. The Experimental Error of the Yield from Small Plots of "Natural" Pasture.
49. Factors affecting the Mineral Content of Pastures.
50. The Poisonous Action of Ingested Saponins.
51. A Soil Survey of the Swamps of the Lower Murray River.
52. The Soils of Australia in relation to Vegetation and Climate.
53. The Flying Fox (*Pteropus*) in Australia.
54. Investigations on "Spotted Wilt" of Tomatoes.—II.
55. The Basal (Standard) Metabolism of the Australian Merino Sheep.
56. A Soil Survey of Blocks A, B, C, D, and F, Renmark Irrigation District, South Australia.
57. Infectious Enterotoxaemia (the so-called Braxy-like Disease) of Sheep in Western Australia.
58. The Life Cycle of *Stephanurus dentatus* Deising, 1839: The Kidney Worm of Pigs.
59. Radio Research Board: Report No. 2.
60. Radio Research Board: Report No. 3.
61. Studies in the Supplementary Feeding of Merino Sheep for Wool Production.—I.
62. A Soil Survey of the Cadell Irrigation Area and New Era, South Australia.
63. Radio Research Board: Report No. 4.
64. The Ripening and Transport of Bananas in Australia. (Out of Print.)
65. Downy Mildew (Blue Mould) of Tobacco in Australia.
66. The Influence of Growth Stage and Frequency of Cutting on the Yield and Composition of a Perennial Grass—*Phalaris tuberosa*.
67. Methods for the Identification of Coloured Woods of the Genus *Eucalyptus*.
68. Radio Research Board: Report No. 5 Atmospherics in Australia.—I.
69. An Investigation of the Taxonomic and Agricultural Characters of the *Danthonia* Group.
70. A Soil Survey of King Island.
71. Investigations on Irrigated Pastures.
72. Varieties of Wheat in Australia.
73. A Soil Survey of the Nyah, Trelo, Trelo West, Kangaroo Lake (Vic.), and Goodnight (N.S.W.) Settlements.
74. Observations on Soil Moisture and Water Tables in an Irrigated Soil at Griffith, N.S.W.
75. *Nigrospora Musae* n.sp. and its Connexion with "Squirt" Disease in Bananas.
76. A Soil Survey of the Hundreds of Laffer and Willalooka, South Australia.
77. Studies on the Phosphorus Requirements of Sheep.—I.
78. Methods for the Identification of the Light-coloured Woods of the Genus *Eucalyptus*.
79. The "Lucerne Flea," *Smynthurus viridis* L. (Collembola), in Australia.
80. The Establishment, Persistency, and Productivity of Selected Pasture Species on an Irrigated Reclaimed Swamp.
81. A Comparative Study of *Lolium perenne* and *Phalaris tuberosa* at Varying Stages of Growth.
82. The Insect Inhabitants of Carrion: A Study in Animal Ecology.
83. Natural Pastures: Their Response to Superphosphate.
84. The Basal (Standard) Metabolism of the Australian Merino Sheep.—II.
85. Studies on the Phosphorus Requirements of Sheep.—II. (Out of Print.)
86. A Soil Survey of the Berri, Cobdogla, King-ton, and Moorook Irrigation Areas, and of the Lyrup Village District, South Australia.
87. Radio Research Board: Report No. 6.
88. Radio Research Board: Report No. 7.
89. Radio Research Board: Report No. 8.
90. The Identification of the Principal Commercial Australian Timbers other than Eucalypts.

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91. Further Investigations into the Transport of Bananas in Australia.
92. The Apple-growing soils of Tasmania, Part 1: A General Investigation of the Soils. Part 2: A Soil Survey of Part of the Huonville District.
93. Studies on Contagious Pleuro-Pneumonia of Cattle.—I.
94. Fertility in Sheep: Artificial Production of Seminal Ejaculation and the Characters of the Spermatozoa contained therein.
95. Radio Research Board: Report No. 9.
96. Observations on Myxomatosis Cuniculi (Sanarelli) made with a View to the Use of the Virus in the Control of Rabbit Plagues.
97. Studies on Contagious Pleuro-Pneumonia of Cattle.—II., II. (a), II. (b), III.
98. Cercospora Leaf-spot (Frogeye) of Tobacco in Queensland.
99. A Survey of the Pastures of Australia.
100. Radio Research Board: Report No. 10.
101. Radio Research Board: Report No. 11.
102. Studies of Selected Pasture Grasses: The Measurement of the Xerophytism of any Species.
103. *Wojnowiccia graminis* (McAlp.) Sacc. and D. Sacc. in Relation to Foot Rot of Wheat in Australia.
104. Investigations on the Occurrence and Inheritance of the Grass Clump Character in Crosses between Varieties of *Triticum vulgare* (Vill.).
105. Investigations on the Associated Growth of Herbage Plants.
106. Investigations on "Spotted Wilt" of Tomatoes.—III. Infection in Field Plots.
107. A Soil Survey of the Coomealla, Wentworth (Curlwaa) and Pomona Irrigation Settlements, New South Wales.
108. The Basaltic Soils of Northern Tasmania.
109. The Variability of Plant Density in Fields of Wheat and its Effect on Yield.
110. Radio Research Board: Report No. 12.
111. Radio Research Board: Report No. 13.
112. Studies in Fertility of Sheep.
113. Studies on Coast Disease of Sheep in South Australia.
114. The Wood Structure of some Australian Rutaceae with Methods for their Identification.
115. A Soil Survey of Part of the Denmark Estate, Western Australia.
116. The Relation of Phosphate to the Development of Seeded Pasture on a Podsolised Sand.
117. The Regional and Seasonal Incidence of Grasshopper Plagues in Australia.
118. A Soil Survey of the Horticultural Soils in the Murrumbidgee Irrigation Areas, New South Wales.
119. The Wood Structure of some Australian Cunoniaceae with Methods for their Identification.
120. Some Effects of Green Manuring on Citrus Trees and on the Soil.
121. Observations on the Toxicity of Fluorine for Sheep.
122. The Establishment of Pastures on Deep Sands in the Upper South-East of South Australia.
123. A Soil Survey of the Merbein Irrigation District, Victoria.
124. The Wood Anatomy of some Australian Meliaceae with Methods for their Identification.
125. A Soil Survey of Part of the Kerang Irrigation District, Victoria.
126. Investigations on Chilled Beef. Part I.—Microbial Contamination Acquired in the Meatworks.
127. Radio Research Board: Report No. 14.
128. An Investigation of the Problems of Salt Accumulation on a Mallee Soil in the Murray Valley Irrigation Area.
129. Investigations on Chilled Beef. Part II.—Cooling and Storage in the Meatworks.
130. Chemical Investigations on the Fleece of Sheep.

PAMPHLETS.

1. Recent Developments in the Organization of National Industrial Research Institutions (1918). (Out of print.)
2. Engineering Standardization (1919).
3. The Co-operative Development of Australia's Natural Resources (1923).
4. The Bionomics of *Smynthurus viridis* Linn., or the South Australian Lucerne Flea.
5. Liver Fluke Disease in Australia: its Treatment and Prevention. (Out of print.)

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6. Standard Methods of Drying Sultana Grapes in Australia.
7. The Export of Oranges.
8. Methods for the Examination of Soils. (Out of Print.)
9. A Forest Products Laboratory for Australia.
10. The Health and Nutrition of Animals.
11. The Tasmanian Grass Grub (*Oncopera intricata*).
12. The Cattle Tick Pest and Methods for its Eradication.
13. The Mechanical Analysis of Soils.
14. The Work of the Division of Economic Botany for the Year 1928-29.
15. The Work of the Division of Economic Entomology for the Year 1928-29.
16. The Work of the Division of Animal Nutrition for the Year 1928-29.
17. The Mineral Content of Pastures.
18. The Influence of Frequency of Cutting on "Natural" Pastures in Southern Australia.
19. Black Disease. A Short Description of its Nature and Means of Prevention.
20. The Identification of Wood by Chemical Means. Part 1.
21. The Density of Australian Timbers.—A Preliminary Study.
22. The Chemistry of Australian Timbers. Part 1.—A Study of the Lignin Determination.
23. Refrigeration Applied to the Preservation and Transport of Australian Foodstuffs.
24. The Preservative Treatment of Fence Posts.
25. Termites (White Ants) in South-eastern Australia. (Out of Print.)
26. The Irrigation of Horticultural Community Settlements.
27. Zebu (Brahman) Cross Cattle and their Possibilities in North Australia.
28. The Pig Industry. Report on Conditions in Great Britain and America, with Suggestions Applicable to Australia.
29. The Possibility of the Entomological Control of St. John's Wort in Australia.—Progress Report.
30. The Bionomics and Economic Importance of *Thrips imaginis* Bagnall.
31. A Preliminary Report on Investigations on the Buffalo Fly (*Lyperosia exigua* de Meij.) and its Parasites in Java and Northern Australia.
32. The Chemistry of Australian Timbers. Part 2.—The Chemical Composition of the Woods of the Ironbark Group.
33. Enzootic Haematuria (*Haematuria Vesicalis*) of Cattle in South Australia.
34. The Collembola-Symplypleona of Australia: A Preliminary Account.
35. "Pulpy Kidney" in Lambs.
36. Fibre Boards: Their Uses and the Possibilities of their Manufacture in Australia.
37. The Sheep Blowfly Problem in Australia. (Price 1s. 6d.)
38. The Occurrence of *Anaplasma marginale* Theiler 1910 in Northern Queensland.
39. The Grasslands of Australia and Some of Their Problems. A Report upon the Dairy Pastures.
40. A Guide to the Seasoning of Australian Timbers. Part 1.
41. The Grading of Western Australian Timbers.
42. Meteorological Data for Certain Australian Localities.
43. Investigations on the Buffalo Fly, *Lyperosia exigua* de Meij.
44. The Chemistry of Australian Timbers. Part 3.—The Chemical Composition of Four Pale-coloured Woods of the Genus *Eucalyptus*.
45. Australian Export Apple Cases.
46. The Holding Power of Special Nails.
47. Properties of Australian Timbers. Part 1.
48. Field Observations on Weather Stain and Blowfly Strike of Sheep, with Special Reference to Body Strike. (Out of Print.)
49. Some Important Poison Plants of North Australia.
50. The Design of Overhead Irrigation Systems.
51. The Chemistry of Australian Timbers. Part 4.—A Study of the Lignin Determination. II.
52. Systematic Entomology—Contribution I.
53. The Identification of Wood by Chemical Means. Part 2.—Alkalinity of Ash and Some Simple Chemical Tests for the Identification of the Coloured Woods of the Genus *Eucalyptus*.
54. Thrips Investigation: Some Common Thysanoptera in Australia.
55. The Selection, Preservation, Distribution, and Identification of Australian Pole Timbers.

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56. The Occurrence of Bovine Babesiosis in Northern Australia.
57. Tests of the Efficacy of the Oxy-Acetylene Scouring and Charring Process for Sterilising Partly Decayed Poles.
58. Certain Aspects of Investigations on Black-end Disease of Bananas in Australia.
59. A Study of Persistence in Certain Introduced Pasture Grasses.
60. A Report on a Survey of Weed Problems in Australia.
61. A Discussion of Special Tests on the Compressive Strength of Green Karri (*Eucalyptus diversicolor*).
62. The Chemistry of Australian Timbers, Part 5.—A Study of the Lignin Determination.—III.
63. Studies of Five Introduced Grasses.
64. Soil Drift in the Arid Pastoral Areas of South Australia.
65. A Survey of the Sheep and Wool Industry in North-eastern Asia, with special reference to Manchukuo, Korea, and Japan.
66. The Sheep Blowfly Problem in Australia: Results of some recent Investigations.
67. The Shrinkage of Australian Timbers. Part 1.—A New Method of Determining Shrinkages and Shrinkage Figures for a Number of Australian Species.
68. A Guide to the Seasoning of Australian Timbers. Part 2.
69. Observations on Some Wool Samples from North-eastern Asia.
70. Further Observations on Soil Erosion and Sand Drift, with Special Reference to South-western Queensland.
71. The Grazing of Sheep on Improved Pastures: Its Effect on Superfine Wool.
72. Needle Fusion of Species of *Pinus* in Southern New South Wales.—Progress Report, 1933-36.
73. Properties of Australian Timbers, Part 2.—Brown Mallet (*Eucalyptus astringens*).
74. Studies on the Chemotropic Behaviour of Sheep Blowflies.
75. Collapse and Its Removal: Some Recent Investigations with *Eucalyptus regnans*.
76. Grading Studies in "Ash" Eucalypts.
77. A Study of Consistency, Productivity, and Palatability in some Introduced Pasture Grasses.
78. A Copper Deficiency in Plants at Robe, South Australia.
79. A Report on the Conditions of Animal Production in Australia.
80. The Storage of Oranges with Special Reference to Locality, Maturity, Respiration and Chemical Composition.
81. The Properties of Australian Timbers.
82. The Humidity of the Atmosphere and the Moisture Conditions within Mounds of *Eutermes exitiosus* Hill.
83. Fleece Investigations.
84. A Population Study of the Red-legged Earth Mite (*Halotydeus destructor*) in Western Australia, with Notes on Associated Mites and Collembola.
85. A Chemical Study of some Australian Fish.
86. A Study of the Pulping Properties of Three Trees of *E. sieberiana*, using the Sulphate Process.
87. The Mechanical Properties of South Australian grown plantations *Pinus radiata* (D. Don).
88. The Oriental Peach Moth (*Cydia molesta* Busck) Investigations in the Goulburn Valley, Victoria. Progress Report for the Seasons 1935-38.
89. Needle Fusion of *Pinus* in Southern New South Wales—Second Progress Report for the Seasons 1937-38.
90. Studies of the Physiology and Toxicology of Blowflies. 1. The Development of a Synthetic Medium for Aseptic Cultivation of Larvae of *Lucilia cuprina*.
91. The Effect of Spacing and Time of Sowing on Yield and Yield Components of Wheat Varieties.

JOURNAL.

Vol. 1 (1927-28), Vol. 2 (1929) to Vol. 12 (1939) inclusive.

TRADE CIRCULARS.

(*Division of Forest Products.*)

1. Sound Practice in the Air Seasoning of Boards. (Revised Edition.)
2. The Testing of Timbers for Moisture Content. (Revised Edition.)

(*Supplement to the Journal of the Council for Scientific and Industrial Research, February, 1940.*)

3. The Growth and Structure of Wood. (Revised Edition.)
4. The Functions of the Division of Forest Products. (Out of print.)
5. Vacuum Kilns. (Out of print.)
6. Wood Borers in Australia. Part 1.—Lyctus, or the Powder Post Borer. (Revised Edition.)
7. Sample Boards: Their Use in Timber Seasoning. (Revised Edition.)
8. Identifying Australian Timbers. The Value of Structure, Composition, and Precise Names.
9. Electrical Moisture Meters: For Measuring the Moisture Content of Timber. (Revised Edition.)
10. The Principles of Wooden Box Construction.
11. Wood Borers in Australia. Part 2.—Anobium, or the Furniture Borer.
12. Combined Air and Kiln Seasoning. Handling by Means of the Christensen Truck.
13. Cross, Diagonal, and Spiral Grain in Timber.
14. Gluing Practice. Part 1.—The Preparation and Use of Animal Glues.
15. Draft Terms and Definitions used in Timber Grading Rules.
16. Terms used in Timber Seasoning: Part 1.
17. Types of Timber Seasoning Kilns.
18. The Prevention of Decay in Building Foundations.
19. Gluing Practice. Part 2.—Casein Glues.
20. Collapse and the Reconditioning of Collapsed Timber.
21. Drying Rooms for Furniture Stock.
22. Timber Bending.
23. The Shrinkage of Wood during Drying.
24. The "Working" of Wood.
25. Wood Borers in Australia. Part 3.—Pin-Hole Borers.
26. Some Terms used in the Mechanical Testing of Timber.
27. The Preservation of Timber.
28. The Chemistry of Wood.
29. Gluing Practice. Part 3.—Vegetable, Vegetable-Protein, Liquid, and Blood-Albumen Glues.
30. The Chemical Utilization of Wood.
31. The Gluing Practice. Part 4.—Artificial Resin Glues.
32. Causes and Detection of Brittleness in Wood.
33. Deterioration of Timber Caused by Fungi. Part 1.—Decay.
34. Sawing Methods. 1.—Quarter Sawing.
35. Faults in Wooden Floors.
36. Termites (White Ants).
37. Kiln Instruments.
38. Deterioration of Timber Caused by Fungi. Part 2.—Staining Fungi.
39. The Selection of Timber. Part 1.—Grading of Timber.
40. Testing a Timber-seasoning Kiln.
41. The Selection of Timber. Part 2.—Structural Timber.
42. The Selection of Timber. Part 3.—Plywood: Its Use and Grading.
43. Figure in Timber.
44. Termite (White Ant) Proof Construction.
45. The Testing of Timber for Moisture Content.

MISCELLANEOUS.

The Catalogue of Scientific and Technical Periodicals in the Libraries of Australia (1930). [Price 10s, post free.]

Supplement to the Catalogue of Scientific and Technical Periodicals 1928-33 (1934). [Price 5s, post free; Catalogue, plus Supplement, 12s. 6d, post free.]

"C.S.I.R.—Ten Years of Progress 1926-1936" (A popular account of the Council's work during its first ten years of existence).

Circular No. 1—P. "The Commercial Ripening of Bananas."

Circular No. 2—P. "Hygienic Methods for the Preparation of Beef in the Meatworks."

Circular No. 3—P. "The Cooling of Export Chilled Beef."